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1. A process for determining methyl ter butyl ether (MTBE) vapours, in concentrations equal to or higher than 0.1 ppm, in the ground and overlying atmosphere comprising:
- 5 a) adopting a series of MTBE vapour sensors of which at least one in the earth, equipped with a membrane permeable to gases and impermeable to water, and at least one in the air on the surface
- 10 of the ground, these sensors consisting of
- a sensitive element made of a semi-conductor metal oxide containing platinum;
 - a heater capable of bringing the temperature of said sensitive element to a range of 300 and
- 15 500°C;
- b) - continuously observing the resistance variations of the sensitive elements by interaction with MTBE,
- comparing the signals emitted by the sensor in
- 20 the earth and the sensor in the air on the ground-surface;
- evaluating on the basis of this comparison the presence and concentration of MTBE in the surface layers or depths of the ground and in the atmo-
- 25 sphere above the ground itself.

2. The process according to claim 1, characterized in that the sensitive element is produced with tin oxide.

3. A device for determining methyl ter butyl ether (MTBE) vapours comprising:

a) a series of sensors of MTBE vapours consisting of a sensitive element produced with

- a 40 micron layer of semiconductor metal oxide containing 1% by weight of platinum,

- a heater capable of bringing the temperature of said sensitive element to a range of 300 to 500°C,

at least one of said sensors being equipped with a membrane permeable to gases and impermeable to water for the protection of said sensitive element;

b) an electronic evaluation system capable of

- continuously recording the variations in resistance of the sensitive elements by interaction with MTBE,

- comparing the signals emitted by the sensor in the ground and the sensor in the air on the surface of the ground,

- evaluating on the basis of this comparison the presence and concentration of MTBE in the

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4. The device according to claim 3, characterized in that the semiconductor metal oxide is tin oxide.

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